IN THE CLAIMS

Please amend the claims as follows:

1. (Original) A method of obtaining a natural product from green plant oleoresin, the method comprising:

(a) saponifying green plant oleoresin to provide a saponified resin;

(b) contacting the saponified resin with a first volatile organic solvent to provide a suspension;

(c) removing the solids from the suspension to provide a solution;

(d) condensing the solution to provide a first oil; and

(e) contacting the first oil with a second volatile organic solvent to solidify the natural product.

2. (Original) The method of claim 1 wherein the natural product is in a crystalline form.

3. (Original) The method of claim 1 wherein the natural product comprises a mixture of lutein and zeaxanthin.

4. (Original) The method of claim 1 wherein the natural product comprises a mixture of lutein crystals and zeaxanthin crystals.

5. (Original) The method of claim 1 wherein the natural product comprises at least about 80 wt.% xanthophylls.

6. (Original) The method of claim 1 wherein the natural product comprises about 80 wt.% to about 85 wt.% xanthophylls.

7. (Original) The method of claim 1 wherein the natural product comprises about 70 wt.% to about 80 wt.% lutein.

8. (Original) The method of claim 1 wherein the natural product comprises about 5 wt.% to about 10 wt.% zeaxanthin.

9. (Original) The method of claim 1 wherein the natural product comprises about 70 wt.% to about 80 wt.% lutein and about 5 wt.% to about 10 wt.% zeaxanthin.

10. (Original) The method of claim 1 wherein the natural product comprises less than about 20 wt.% fatty acids.

11. (Original) The method of claim 1 wherein the natural product comprises trans lutein.

12. (Original) The method of claim 1 wherein the natural product comprises trans lutein that is at least about 50 wt.% pure.

13. (Original) The method of claim 1 wherein the natural product comprises trans lutein that is about 50 wt.% to about 90 wt.% pure.

14. (Original) The method of claim 1 wherein at least about 0.5 pounds of natural product is obtained.

15. (Original) The method of claim 1 wherein the green plant oleoresin is obtained from alfalfa, clove, kale, spinach, squash, black bean tops, sea-weed, leafy green vegetable, or any combination thereof.

16. (Original) The method of claim 1 wherein the green plant oleoresin is obtained from alfalfa.

17. (Original) The method of claim 1 wherein the saponifying employs a saponification agent that is an alkali metal hydroxide or an alkaline earth metal hydroxide.

18. (Original) The method of claim 1 wherein the saponifying employs a saponification agent selected from the group of sodium hydroxide (NaOH), potassium hydroxide (KOH), and a combination thereof.

19. (Original) The method of claim 1 wherein the saponifying employs about 40 wt.% aqueous potassium hydroxide (KOH).

20. (Original) The method of claim 1 wherein the saponifying is carried out in the absence of an alcohol.

21. (Original) The method of claim 1 wherein the saponifying employs a saponification agent in an amount sufficient to maintain the pH during the saponifying at about 10 to about 14.

22. (Original) The method of claim 1 wherein the saponifying employs a saponification agent in an amount sufficient to maintain the pH during the saponifying at about 11.5 to about 12.0.

23. (Original) The method of claim 1 wherein the saponifying employs a solvent system selected from the group of water, ethanol, methanol, propanol, and any combination thereof.

24. (Original) The method of claim 1 wherein the saponifying employs a solvent having at least one hydroxyl group.

25. (Original) The method of claim 1 wherein the saponifying is carried out between about 60°F and about 180°F.

26. (Original) The method of claim 1 wherein the saponifying is carried out between about 120°F and about 160°F.

27. (Original) The method of claim 1 wherein the saponifying is carried out for at least about 30 min.

28. (Original) The method of claim 1 wherein the saponifying is carried out for about 30 min to about 90 min.

29. (Original) The method of claim 1 wherein the volatile organic solvent comprises a compound having at least one carbonyl (C=O) group.

30. (Original) The method of claim 1 wherein the volatile organic solvent comprises methyl ethyl ketone (MEK), ethyl acetate, acetone, or any combination thereof.

31. (Original) The method of claim 1 wherein the volatile organic solvent comprises a compound having at least one ketone group.

32. (Original) The method of claim 1 wherein the first volatile organic solvent comprises acetone.

33. (Original) The method of claim 1 wherein the first volatile organic solvent is employed in an amount of about 25:1 (vol/vol) to about 800:1 (vol/vol) of first volatile organic solvent to saponified resin.

34. (Original) The method of claim 1 wherein the first volatile organic solvent is employed in an amount of about 50:1 (vol/vol) to about 500:1 (vol/vol) of first volatile organic solvent to saponified resin.

35. (Original) The method of claim 1 wherein the saponified resin is contacted with the first volatile organic solvent having a temperature of about 60°F to about 120°F.

36. (Original) The method of claim 1 wherein the solids are removed from the suspension by decantation, filtration, centrifugation, or any combination thereof.

37. (Original) The method of claim 1 wherein the second volatile organic solvent is a solvent system wherein carotene, xanthophylls and chlorophyllins are more soluble than lutein and zeaxanthin, at a ratio of about 10:1 (vol/vol) to about 2,000:1 (vol/vol) of second volatile organic solvent to first oil, at a temperature of about 50°F to about 130°F.

38. (Original) The method of claim 1 wherein the second volatile organic solvent is a solvent system wherein carotene, xanthophylls and chlorophyllins are more soluble than lutein and zeaxanthin, at a ratio of about 100:1 (vol/vol) of second volatile organic solvent to first oil, at a temperature of about 72°F.

39. (Original) The method of claim 1 wherein the second volatile organic solvent is a binary solvent system.

40. (Original) The method of claim 39 wherein the binary solvent system comprises a halogenated organic solvent in which lutein is relatively soluble, and a second organic solvent in which the lutein is relatively insoluble.

41. (Original) The method of claim 40 wherein the halogenated organic solvent comprises chloroform.

42. (Original) The method of claim 40 wherein the second organic solvent is a straight chain hydrocarbon.

43. (Original) The method of claim 42 wherein the straight chain hydrocarbon comprises hexanes.

44. (Original) The method of claim 1 wherein the contacting of the first oil and the second volatile organic solvent is carried out at a temperature of about -40°F to about 30°F.

45. (Original) The method of claim 1 wherein the contacting of the first oil and the second volatile organic solvent is carried out at a temperature of about -20°F to about 0°F.

46. (Original) The method of claim 1 further comprising, after the natural product is solidified, separating the natural product from the second volatile organic solvent.

47. (Original) The method of claim 1 further comprising, after the natural product is solidified, separating the natural product from the second volatile organic solvent by decantation, filtration, centrifugation, or any combination thereof.

48. (Original) The method of claim 46 further comprising, after the natural product is separated from the second volatile organic solvent, washing the natural product with water.

49. (Original) The method of claim 48 wherein the water is about 60°F to about 150°F.

50. (Original) The method of claim 48 wherein the water is about 80°F to about 100°F.

51. (Original) The method of claim 48 further comprising, after the washing of the natural product with water, drying the washed natural product.

52. (Original) The method of claim 1 further comprising, before saponifying the green plant oleoresin to provide the saponified resin, extracting the green plant oleoresin from a curd employing a third volatile organic solvent.

53. (Previously Presented) The method of claim 52 wherein the third volatile organic solvent is ethyl acetate, acetone, benzene, chloroform, cyclohexanone, dimethyl sulfoxide, ethyl ether, tetrahydrofuran, methyl tert-butylether, butyl acetate, or combinations thereof.

54. (Original) The method of claim 52 wherein the third volatile organic solvent is ethyl acetate.

55. (Original) The method of claim 52 wherein the third volatile organic solvent is an aprotic solvent.

56. (Original) The method of claim 52 wherein the third volatile organic solvent is a polar solvent.

57. (Original) The method of claim 52 wherein the curd is obtained from green plants comprising:

(a) macerating green plants to provide plant matter and juice;

(b) separating the plant matter from the juice;

(c) heating the juice to coagulate chloroplastic proteins into a green curd; and

(d) separating the green curd from the juice.

58. (Original) The method of claim 57 wherein the green plants have been macerated within about 1 day of harvesting.

59. (Original) The method of claim 57 wherein the heating is carried out at a pH of about 7 to about 8.

60. (Original) The method of claim 57 wherein the heating is carried out at a temperature of about 135°F to about 200°F.

61. (Original) The method of claim 57 wherein the heating is carried out at a temperature of about 170°F to about 190°F.

62. (Original) The method of claim 57 wherein after the heating and before the separating, the green curd and the juice is cooled to a temperature of less than about 95°F.

63. (Original) The method of claim 57 wherein after the heating and before the separating, the green curd and the juice are cooled to a temperature of less than about 80°F.

64. (Original) The method of claim 57 wherein the green curd is separated from the juice by decantation, filtration, centrifugation, or any combination thereof.

65. (Original) The method of claim 57 further comprising, after separating the green curd from the juice, drying the green curd.

66. (Original) The method of claim 65 wherein the drying is carried out at a temperature of less than about 180°F.

67. (Original) The method of claim 65 wherein the drying is carried out at a temperature of less than about 150°F.

68. (Original) The method of claim 57 wherein more than about 10,000 pounds of green plants are macerated to provide plant matter and juice.

69. (Original) The method of claim 57 wherein at least about 200,000 pounds of green plants are macerated to provide the plant matter and juice.

70. (Original) A method of obtaining a natural product from a green plant, the method comprising:

(a) macerating the green plant to provide plant matter and juice;

(b) separating the plant matter from the juice;

(c) heating the juice to coagulate chloroplastic proteins into a green curd;

(d) separating the green curd from the juice;

(e) optionally drying the green curd;

(f) extracting a green plant oleoresin from the green curd employing a first volatile organic solvent;

(g) saponifying the green plant oleoresin to provide a saponified resin;

(h) contacting the saponified resin with a second volatile organic solvent to provide a suspension;

(i) removing the solids from the suspension to provide a solution;

(j) condensing the solution to provide a first oil;

(k) contacting the first oil with a third volatile organic solvent to solidify the natural product;

(l) separating the natural product from the third volatile organic solvent;

(m) optionally washing the natural product with water; and

(n) optionally drying the washed natural product.

71-96. (Canceled)